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SCIENCE.—SUPPLEMENT.

FRIDAY, DECEMBER 25, 1885.

THE CANADIAN PLAINS.

THE name Qu'Appelle, given to the river, charming valley, and village in eastern Assiniboia, long ago settled by half-breeds, and now one of the most productive districts in the north-west, is literally 'Who calls?' It is French for an old Cree appellation, *Kateépwa*, referring to the curious calling or talking noises heard there in winter from beneath the ice. These sounds are most noticeable among the deep coulées near Fort Qu'Appelle, some fifteen miles north of the railway station. The Crees had a separate name, however, for the locality of the Hudson Bay company's trading fort, *Kipáýikinih*, meaning 'closed gates,' and referring to an aboriginal fish-dam at that point. The word 'Manitoba' (which is *not* pronounced Manitobá) signifies 'spirit voices,' and was given to the lake by the Indians on account of the remarkable susceptibility to echoes possessed by the flinty cliffs of its largest island, an echo to all aboriginal minds being the mocking answer of some mischievous spirit.

Just west of Moose Jaw we rise to the top of that great steppe called the Grand Coteau du Missouri, which abruptly separates the drainage of that river from the Saskatchewan's. It is a dry plain, resembling more that of Dakota than any thing seen farther east. It is probably true, as has often been explained, that the reason why the whole valleys of the Assiniboine, Qu'Appelle, and lower Saskatchewan, are not covered with trees, is, that they were annually burned over by the Indians in signalling to one another, or as an aid in guiding and chasing the buffalo. With the extinction of the bison, and the consequent disappearance or concentration of the nomads, forests would re-assert their sway were it not for the new interference of white settlement.

Upon these more arid uplands, tree-growth is not to be expected, and seems never to have existed. Yet they are by no means as dry, nor as barren, as those within the United States. Agriculture succeeds without irrigation all the way between Moose Jaw and the foot of the Rockies, though only a few years ago that area was termed a desert. The one drawback is early frost; but the people are learning how to diminish within a practicable limit the danger from this source. Grant's article in the *Century* for October, 1885,

though as a whole inadequate and unsatisfactory, discusses this point pretty well, and shows (what my own later observation bore out) that the railway company's experimental farms produced bountiful crops at intervals all the way from the beginning of the Coteau to the crossing of the South Saskatchewan. The geology of these uplands, and other physical characteristics, are well presented by Dawson, Hind, and other explorers, whose reports have been printed by the Canadian or English governments. Our Pacific railroad reports hold much information and many pictures as to the Coteau, which is not without its beauty.

The characteristic feature in the scenery which constantly interrupts the monotony, and marks another distinction from the 'American' plains, is the great number of lakes. They begin, as seen from the cars, with the Old Wives' lakes,—extensive bodies of water, into which flow several considerable streams from the Cypress Hills, but which have no outlet. These lakes, like most of those which succeed them, are saline. The people there will tell you that this is due to the potash washed into them after prairie fires. It would be easy to argue this out of existence, and show that their salts are sulphates of sodium and magnesium, together with certain chlorides, dissolved out of the marly, cretaceous soil. In many of the smaller lakes the efflorescence of these salts forms a snowy beach, upon which the waters, blue as the sky (or perhaps pale green when the reflection of the azure sky mingles with the yellow bottom shining through), break with a constantly refreshing ripple; and this glittering strand is itself rimmed by a line of richly red samphire, outlined with the vivid emerald of grasses kept fresh by the moisture for a narrow space between the water and the gray plain. Sometimes, late in summer, the salty ponds will partly dry, leaving muddy flats exposed, where a close brilliant carpet of ripe samphire, maroon in color, will overspread the whitened mud; while, in cases where the alkali is excessive, no samphire grows, but the drying-up of the lakelet leaves a wide area of gleaming salt, looking precisely like ice or crusted snow.

The larger ponds are frequented by hosts of herons, gulls, and white pelicans. I have no doubt the last named breed there. The great expanse of sedges, growing in fetid sulphurous mud around its borders, gave the name Rush Lake to one of the largest ponds seen; but this is very unusual,

and due probably to the comparative freshness of the water. I found *Limnea campestris*, *Planorbis trivolvus*, a small *Gyraulus*, and a *Physa*, on its banks during the halt of the train. *Physa* does not object to strongly alkaline waters, or to springs of a high temperature, and probably occurs in most of the alkali ponds. Ducks are not common even in the migrating seasons, though one small water-fowl, which seemed to be a grebe, abounded on nearly all the lakes.

The birds of this region have been pretty thoroughly collected by Professor McCoun, who, more than any other naturalist, has travelled over these north-western plains. He made this year a list of no less than 110 species of birds during a rather limited search for alpine plants between Calgary and the Selkirks.

The railway, after crossing the South Saskatchewan, in lat. 50° at Medicine Hat, on a beautiful iron truss bridge built in Pittsburgh, takes a northerly course until it reaches the 51st parallel at Calgary. This is on the outermost edge of the foot-hills of the Rockies, which first come into view at Gleichen, 100 miles away. This was neutral ground between the Plains, Crees, and the Blackfeet; the former wandering northward, and the latter occupying the Cypress Hills and the plains between Bow River and the country of the Bloods and Piegiens along the U.S. boundary. On the lower Bow River were located a section of the Blackfoot nation, named Sarcees. The site of Gleichen was known to the trappers in the long-long-ago of the last decade as Blackfoot Crossing. Since then the Bow was easily fordable. Thirty-five miles northward, where the Rosebuds flow into Red Deer River, are the Hand Hills, having bluff faces southward forming the 'Cree look-out.' The Blackfeet, going north in pursuit of buffalo, would be sighted by sentinels posted here, and instantly chased, whereupon a race would ensue back to the Crossing. There may still be discovered remains of intrenchments thrown up by hard-pressed Blackfeet as a defence in fighting off their pursuers until they could get to the safe side of the ford. This borderland of constant struggle ought to yield a rich harvest to the archeologist. How Putnam or Abbott would enjoy following the first plough!

I was told in regard to these Indians (who look and dress precisely like those in Dakota and Montana) something which was new to me; namely, that originally (not through white teaching) they kept a regular police patrol in their villages all night. This consisted of a few young men appointed daily by the chief, whose business it was to see that no one left or entered the vil-

lage after bed-time without a thorough explanation, and to prevent skylarking or mischief of any kind. This was not a herd-guard or military precaution, but a civil police.

Calgary is advantageously placed at the junction of the Bow and Elbow, — names given by the Indians. It stands upon a gravelly plateau, with no trees in sight save the cottonwoods in the river-bottoms, and with the mountains grandly in view. It is the site of quite a modern post of the Hudson Bay company, which has now abandoned its stockade for a commodious store in town, and it is the headquarters garrison of the mounted police. The horse-training evolutions of this irregular cavalry are very interesting; and one hears remarkable stories of the fidelity and intelligence displayed by these animals during the arduous campaigns, often in the depth of winter, which they often share with their riders. Many a half-frozen trooper's life has been saved by the kindness and courage of his horse. Calgary is a large and growing town.

The winters here are, of course, very severe; the mercury often sinking to — 40° F., and staying below — 20° for weeks together. No one complains, however, except when the wind blows; yet harrowing tales of suffering and death are heard, where men have been caught at some disadvantage. The snow in the foot-hills lies deep, but on the plains disappears rapidly under the influence of the warm, dry wind sweeping up from the great Utah and Columbia basins, which people here erroneously call the Chinook. Cattle feed out all winter among the rolling, partly wood ridges about Fort McCleod, — perhaps the best cattle-region on the continent; but in the neighborhood of Calgary winter feeding is necessary, and as far north as the Red Deer River (a fine summer range) cattle-ranching is considered impracticable on account of the depth of snow. Between Calgary and Fort McCleod the foot-hills are devoted to sheep. ERNEST INGERSOLL.

CARBOLIC ACID AS A DISINFECTANT.

Of all popular ideas, none seems to be more firmly rooted in the public mind than the notion that carbolic acid is a disinfectant of the most powerful nature. When a disinfectant is wanted, people go to a druggist for some preparation of carbolic acid, and he gives them 'carbol,' or 'carboline,' or 'carbolicine,' or 'carbolic purifying powder,' or some similar thing, which is warranted to be 'the best disinfectant known,' and 'a sure preventive against small-pox, measles, cholera, mumps, diphtheria, whooping-cough,' etc. Then the buyer goes home, sprinkles his carbolic-